

ABSTRACT OF THE DISCLOSURE

The vibration and noise excited by the electromagnetic exciting force in the radial direction of an electric motor are suppressed.

- 5 In an electric motor 100, a rotor 1 is divided into four rotor pieces 3, 4, 5, and 6 for an axial length of 2L of one group of the rotor core, and for example, the four rotor pieces 3, 4, 5, and 6 are ideally 0.29L, 0.71L, 0.71L, and 0.29L in axial length in the axial direction,
- 10 and permanent magnets 2 of the rotor pieces 3, 4, 5, and 6 are arranged in the circumferential direction so that the phase differences of the electrical angle are 0, π , 0, and π . Further, when an effect is obtained even if the ideal axial length is changed, the tolerance of the
- 15 aforementioned axial length is $\pm 0.1L$.